

WHAT IS CLAIMED IS:

- 1 1. A laser processing machine comprising:
2 a beam guiding chamber adapted for flushing with a flushing gas; and
3 a pressure relief valve coupled to the beam guiding chamber for releasing the flushing
4 gas from the beam guiding chamber.
- 1 2. The laser processing machine of claim 1, wherein the pressure relief valve includes a
2 valve chamber and wherein an inner chamber of the beam guiding chamber is connected
3 to the valve chamber.
- 1 3. The laser processing machine of claim 2, wherein the pressure relief valve further
2 includes a movably disposed valve disk for opening and closing the valve chamber to an
3 atmosphere outside the beam guiding chamber.
- 1 4. The laser processing machine of claim 3, wherein the movably disposed valve disk is
2 attached to a pin movably located within a chamber of the pressure relief valve.
- 1 5. The laser processing machine of claim 1, wherein the beam guiding chamber is
2 adapted for flushing with a flushing gas at an overpressure compared to an atmosphere
3 surrounding the beam guiding chamber.
- 1 6. The laser processing machine of claim 5, wherein the pressure relief valve is adapted
2 to be opened passively when the overpressure within the beam guiding chamber exceeds
3 a critical overpressure.
- 1 7. A method of flushing a beam guiding chamber of a laser processing machine, the
2 method comprising:
3 flushing the beam guiding chamber with a flushing gas; and
4 releasing a portion of the flushing gas from the beam guiding chamber through a
5 pressure relief valve.

1 8. The method of claim 7, further comprising flushing the beam guiding chamber with a
2 flushing gas having an overpressure compared to an atmosphere surrounding the beam
3 guiding chamber.

1 9. The method of claim 8, wherein the flushing gas is passively released through the
2 pressure relief valve due to the overpressure of the gas acting on the valve to open the
3 valve when the overpressure exceeds a predetermined overpressure.